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Epidemiologic Notes and Reports

Tetanus — Rutland County, Vermont, 1992

In July 1992, the Vermont Department of Health received a report of a case of tetanus. The last reported case of tetanus in Vermont was in 1987. This report summarizes the case investigation.

On July 12, a 31-year-old woman with left-sided face pain visited the emergency department of the hospital in Rutland. She was unable to open her mouth because of facial muscle spasms and had been unable to eat for 3–4 days because of severe pain and tightness of the jaw. Her attending physician noted trismus and risus sardonicus. She reported that on about July 5 she had walked barefoot in her garden and incurred a puncture wound at the base of her right great toe; she cleaned the wound and removed a few small pieces of wood but did not seek medical attention. On July 8, she had sought medical care from her primary-care physician for severe left-sided facial tightness and pain. She was treated with amoxicillin for presumptive sinusitis, but her condition worsened.

A presumptive diagnosis of tetanus was made in the emergency department, and the patient was admitted to the hospital. When the case was reported to the state health department, the patient's vaccination records were examined. School records indicated that she had been vaccinated with diphtheria and tetanus toxoids vaccine (DT) at ages 6 years 3 months, 6 years 5 months, and 8 years 3 months. Although she recalled receiving a tetanus booster at age 14 years, this could not be confirmed by school records or her physician.

On the basis of her clinical presentation and tetanus vaccination history, she was given tetanus toxoid, 3250 IU of tetanus immune globulin, and intravenous penicillin. Her puncture wound was thoroughly debrided; several additional small pieces of wood were removed. Although she was treated for muscle spasm, mechanical ventilation was not required. At the time of discharge 15 days later, she had difficulty performing simple tasks, such as tying shoelaces.

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Tetanus — Continued

Editorial Note: Tetanus is a clinical diagnosis based on acute onset of hypertonia and/or painful muscular contractions (usually of the muscles of the jaw and neck) and generalized muscle spasms without other apparent medical cause (as reported by a health professional) (*1*). Tetanus is caused by tetanospasmin, an exotoxin produced by *Clostridium tetani* spores, which are ubiquitous in the environment and enter the body usually through a wound; proliferation of bacilli under anaerobic conditions results in the production of tetanospasmin.

Worldwide, tetanus is a problem among nonimmunized or underimmunized persons. In developing countries, where aseptic perinatal care and vaccination programs may not reach all risk groups, tetanus is one of the most important causes of neonatal mortality (*2*). In comparison, tetanus has become rare in the United States. Universal childhood vaccination with diphtheria and tetanus toxoids and pertussis vaccine (DTP) and widespread use of tetanus toxoid combined with improved wound management have resulted in a decrease in tetanus reported in the United States from 560 cases in 1947 (when national surveillance began) to 57 cases in 1991 (*3*). Only one case of neonatal tetanus was reported to CDC during 1985–1991 (CDC, unpublished data, 1992).

Tetanus toxoid is a highly effective vaccine. Protective levels of serum antitoxin are generally maintained for at least 10 years in properly vaccinated persons (*4*). After completion of a primary vaccination series, booster doses of tetanus toxoid combined with diphtheria toxoid (as Td) every 10 years are recommended by the Advisory Committee on Immunization Practices (*4*). Although the patient described in this report had received a complete primary series of tetanus vaccinations, there was no record indicating she had received booster doses.

Of the 109 tetanus patients for whom complete information was available for 1989 and 1990, 94% were aged ≥20 years (CDC, unpublished data, 1992). Older persons are at greater risk for developing tetanus because many have never been vaccinated with a primary series of tetanus toxoid or with booster doses of tetanus toxoid. In 1989 and 1990, of the 57 persons with tetanus and known vaccination status, 45 (79%) had received fewer than three doses of DTP. Another eight (14%) persons had not received a booster dose in the 10 years preceding onset of illness (CDC, unpublished data, 1992).

Wounds such as that of the patient described in this report are common, especially during the summer months. Often such wounds are judged to not warrant a physician or emergency room visit. Establishment and maintenance of adequate tetanus antitoxin levels by administration of primary vaccination and routine booster vaccinations are the only means to avert tetanus. Internists, family practitioners, and other primary health-care providers who treat adults should use every opportunity to review the vaccination status of their patients and administer required vaccines.

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HIV Infection, Syphilis, and Tuberculosis Screening Among Migrant Farm Workers — Florida, 1992

An estimated 2.7–4.0 million persons in the United States are classified as migrant and seasonal farm workers (*1*). Despite a high prevalence of tuberculosis (TB) and other conditions among migrant workers (*2–4*), approximately 13% have access to or receive care at federally funded migrant health clinics (*5*). During February–March 1992, to assess the prevalence of selected health conditions among migrant farm workers, the Florida Department of Health and Rehabilitative Services (FDHRS) conducted a voluntary screening for human immunodeficiency virus (HIV)-1 infection, syphilis, and TB among workers living in 14 migrant camps in Immokalee, Florida. This report summarizes the results of the screening and describes disease-prevention efforts developed by FDHRS for migrant workers.

The period February 1–March 31 was chosen for screening because Florida's perishable crops are in season and the number of migrant workers peaks. Outreach workers went door-to-door in the camps encouraging workers aged ≥16 years to enroll, and leaflets encouraging enrollment were posted in the camps several days before the screening began. Screening was conducted during evening hours. Participants received pretest HIV counseling and signed an informed consent form for testing for HIV-1 antibody (enzyme immunoassay with confirmatory Western blot or immunofluorescent assay), syphilis, and TB infection (Mantoux testing with 5 tuberculin units of purified protein derivative). In addition, participants completed an interviewer-administered questionnaire assessing their work, lifestyle, and medical history. Participants were asked to return within 48–72 hours for a skin test reading, serologic test results, and posttest HIV counseling.

Tuberculin skin tests (TSTs) were considered positive if the induration was ≥10 mm for HIV-1–seronegative persons and ≥5 mm for HIV-1–seropositive persons. Any positive skin test reading in this screening was attributed to infection with *Mycobacterium tuberculosis* because 1) bacille Calmette-Guérin (BCG) vaccination is usually given as a childhood vaccination in all native countries of migrant farm workers and TST reactivity to BCG wanes over time and 2) vaccinated persons included in this screening were in a group at high risk for TB.

Of an estimated 518 persons ≥16 years of age residing in the 14 migrant camps, 310 (60%) participated in the screening. Participants were predominantly male (247 [80%]), Hispanic (165 [53%]) or black non-Hispanic (130 [42%]), and foreign-born (Haiti [93 (30%)], Mexico [83 (27%)], and Guatemala [44 (14%)].

Twenty-six (8%) had reactive serologic tests for syphilis (STS); 15 (5%) were HIV-1–antibody seropositive (four of the 15 had reactive tests for both HIV-1 and syphilis). Persons born in the United States (11%) were more likely than those who were foreign-born (3%) to have positive HIV-1 tests (relative risk [RR]=3.6; 95% confidence interval [CI]=1.4–9.7) and reactive STS (RR=2.0; 95% CI=1.0–4.2). Of the 267 workers whose TSTs were read, 118 (44%) were positive, including four who were also HIV-1–antibody seropositive. TST positivity was similar among U.S.-born and foreign-born workers (RR=0.9; 95% CI=0.6–1.3).

Workers with reactive STS were referred for treatment; of the 26 who had a reactive STS, one person had primary syphilis; six, secondary syphilis; four, early latent syphi-

Migrant Farm Workers — Continued

lis; and five, late latent syphilis. Five had been previously treated for syphilis, and five were unavailable for examination.

Those with positive test results for TB or HIV-1 infection were referred for further evaluation. Thirteen of the 15 persons who were HIV-1 seropositive had newly diagnosed infections. Of the 118 participants with positive TSTs, 55 (47%) returned for chest radiographs and sputum collection. Isoniazid preventive therapy was initiated for 18 persons with latent tuberculous infection; in addition, active TB was diagnosed in one person and treatment was initiated. When necessary, ongoing care was arranged by referring workers to migrant health centers in other locations.

Analysis of questionnaire data (controlled for birthplace [i.e., U.S.-born versus foreign-born]) indicated that use of crack cocaine was associated with positive STS (RR=4.1; 95% CI=1.3–12.6). Risk factors associated with HIV-1–antibody seropositivity included having more than two sex partners during the last 6 months (RR=3.8; 95% CI=1.3–11.1), a prior history of syphilis (RR=3.8; 95% CI=1.2–11.7), and among men, having ever paid for sex (RR=2.8; CI=0.9–9.0). Injecting-drug use (IDU) and homosexual behavior were rarely reported, regardless of HIV-1–infection status; of those who were HIV-1 positive, none reported IDU, one male reported homosexual behavior, and one female reported bisexual behavior. Forty-seven percent of the participants had never used a condom.

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Editorial Note: When compared with migrant-worker populations in other areas of the United States, workers in the southeastern United States are more likely to live away from their families while doing farm work (64%), to live in poverty (73%), and to lack documentation of legal residence status (25%) (*6*)—factors that can impede their access to medical care. The findings in this report document high prevalences of syphilis, HIV-1 infection, and TB among migrant workers in this region of Florida. The 8% prevalence of positive STS among persons in this survey was higher than the 0.8% reported in a national serologic survey (*7*). Moreover, the HIV-1 seroprevalence of 5% was higher than the 3.5% reported in populations of Belle Glade, another Florida agricultural community, and the 2.6% reported for farm workers in North Carolina (*4,8*).

The high TST reactivity among workers in this survey is consistent with previous reports (*9*). Because test results were available within 72 hours, most workers in this screening returned to receive their test results; however, many workers relocated and did not return for follow-up with chest radiographs and sputum tests, which were scheduled several weeks later. In addition, some workers who tested positive but who did not have symptoms (e.g., coughing) did not believe a positive TST indicated TB. Workers were given letters with test results to present to health centers in other locations.

The FDHRS survey identified a substantial number of migrant farm workers with unrecognized and untreated preventable diseases. In particular, treatment and counseling of these persons could prevent transmission of STDs to their sex partners and,

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for TB, to those with whom they live and travel. Although the precise magnitude of TB among migrant workers is not known, different studies have detected high prevalences of asymptomatic tuberculous infection and clinical TB among these populations; the risk for TB among migrant workers has been estimated as six times greater than in the total U.S. population (*10*). The Advisory Council for the Elimination of Tuberculosis recently offered recommendations for the prevention and control of TB among migrant workers (*10*).

The screening to detect HIV-1 infection, syphilis, and TB among migrant workers in Immokalee underscores the need for public health professionals who are trained to respond to health-care needs within the migrant-worker population. The FDHRS used data from this screening to develop crosstraining for public health workers on STDs, including HIV infection, and TB and is conducting other assessments of the prevalence of communicable diseases among migrant farm workers in Florida.

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Current Trends

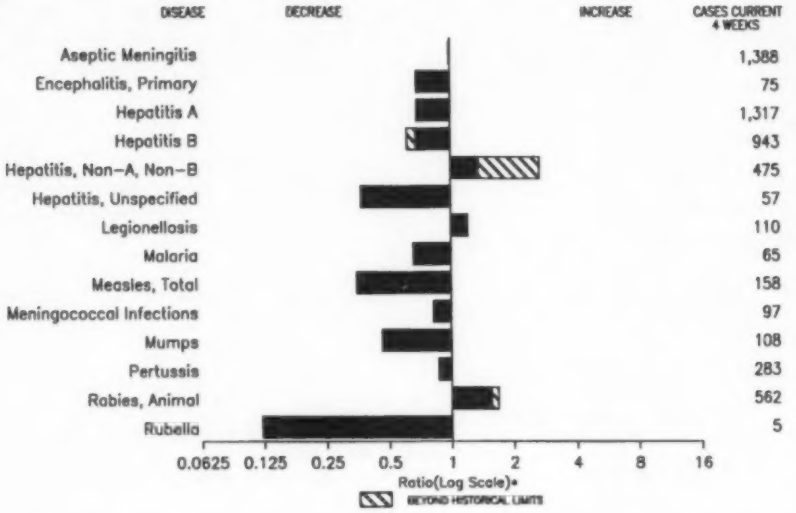
Imported Dengue — United States, 1991

Serum samples from 82 persons with suspected imported dengue (*1*) who had onset in 1991 were submitted to CDC from 27 states and the District of Columbia (Table 1, page 731). Of these, 25 (34%) cases (from 18 states) were serologically or virologically diagnosed as dengue. This report summarizes these cases.

The dengue serotype was identified by virus isolation in two of the cases. Travel histories were available for all persons with laboratory-diagnosed dengue (Table 1, page 731); 11 cases were acquired in Asia, seven in the Caribbean islands, four in

(continued on page 731)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending September 26, 1992, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending September 26, 1992 (39th Week)

	Cum. 1992		Cum. 1992
AIDS*	31,455	Measles: imported	115
Anthrax	1	indigenous	1,908
Botulism: Foodborne	13	Plague	7
Infant	40	Poliomyelitis, Paralytic†	-
Other	1	Psittacosis	64
Brucellosis	62	Rabies, human	-
Cholera	96	Syphilis, primary & secondary	25,060
Congenital rubella syndrome	8	Syphilis, congenital, age < 1 year§	697
Diphtheria	4	Tetanus	19
Encephalitis, post-infectious	95	Toxic shock syndrome	180
Gonorrhea	362,438	Trichinosis	22
Haemophilus influenzae (invasive disease)	1,012	Tuberculosis	16,487
Hansen Disease	116	Tularemia	129
Leptospirosis	22	Typhoid fever	278
Lyme Disease	5,485	Typhus fever, tickborne (RMSF)	362

*Updated monthly; last update September 8, 1992.
†Two cases of suspected poliomyelitis have been reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed, and 5 of the 8 suspected cases with onset in 1990 were confirmed; all were vaccine associated.
§Reports through first quarter 1992.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending September 26, 1992, and September 28, 1991 (39th Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	31,455	7,002	479	95	362,438	446,093	15,074	11,600	5,359	528	977	5,485
NEW ENGLAND	1,017	274	20	-	7,757	10,766	448	441	79	18	47	1,288
Maine	35	27	2	-	72	125	28	19	6	-	2	4
N.H.	32	16	2	-	92	154	30	30	20	1	5	32
Vt.	21	14	3	-	20	41	8	12	11	-	2	5
Mass.	550	117	10	-	2,782	4,697	219	349	36	17	28	170
R.I.	67	100	3	-	532	922	117	18	6	-	10	211
Conn.	312	-	-	-	4,259	4,827	46	13	-	-	-	866
MID. ATLANTIC	8,345	596	19	8	39,521	52,640	1,123	1,462	267	18	259	3,048
Upstate N.Y.	1,060	296	-	-	7,821	9,515	252	389	170	8	100	1,871
N.Y. City	4,884	107	4	1	13,571	20,305	490	285	4	-	5	14
N.J.	1,543	-	-	-	5,709	8,391	172	356	67	-	27	439
Pa.	858	193	15	7	12,520	14,429	209	452	26	10	127	724
E.N. CENTRAL	2,775	1,039	118	27	69,242	82,443	2,079	1,740	1,011	29	258	100
Ohio	518	306	38	2	20,790	25,185	319	176	69	4	114	43
Ind.	267	153	10	11	6,688	8,445	639	588	484	10	34	29
Ill.	1,301	208	46	6	22,265	24,839	409	204	62	5	23	6
Mich.	540	356	22	8	16,580	18,044	111	449	337	10	59	22
Wis.	149	17	2	-	2,919	5,930	601	323	59	-	28	-
W.N. CENTRAL	880	377	30	6	16,824	22,001	1,970	490	199	30	58	242
Minn.	161	39	9	-	2,180	2,289	523	52	14	2	5	107
Iowa	66	57	-	3	1,173	1,501	36	28	5	3	14	16
Mo.	446	174	8	-	9,546	13,393	805	328	150	23	22	95
N. Dak.	8	1	3	-	52	59	82	1	3	1	2	1
S. Dak.	7	8	1	1	136	274	195	4	-	-	-	1
Nebr.	40	20	4	2	8	1,364	221	29	15	1	13	9
Kans.	152	78	5	-	3,729	3,121	108	48	12	-	2	13
S. ATLANTIC	7,288	1,166	124	40	110,653	132,919	960	1,957	747	88	142	466
Del.	95	42	6	-	1,339	2,160	39	174	155	1	22	173
Md.	824	146	13	-	11,837	14,528	172	307	31	5	27	117
D.C.	486	22	1	-	4,787	6,950	13	58	258	-	8	2
Va.	433	195	30	12	12,518	13,602	88	144	28	30	14	92
W. Va.	42	26	49	-	667	939	7	42	2	22	-	7
N.C.	482	132	21	-	17,954	26,350	82	331	69	-	28	50
S.C.	257	18	-	-	8,284	10,823	21	45	1	1	16	1
Ga.	928	151	2	-	32,356	30,667	140	240	93	-	7	3
Fla.	3,721	434	2	28	20,911	26,900	398	616	110	29	20	21
E.S. CENTRAL	1,007	345	19	-	38,062	44,588	215	959	1,562	2	51	53
Ky.	152	126	11	-	3,618	4,594	66	67	3	-	23	19
Tenn.	321	68	4	-	10,835	15,428	90	788	1,547	-	22	26
Ala.	357	98	3	-	12,846	13,694	35	100	11	1	6	8
Miss.	177	53	1	-	8,763	10,872	24	4	1	1	-	-
W.S. CENTRAL	2,897	904	44	5	39,982	50,936	1,465	1,390	110	119	20	93
Ark.	151	10	7	-	5,446	5,964	93	63	7	4	-	11
La.	541	48	5	1	11,177	11,353	169	143	54	3	4	5
Okla.	189	-	3	2	4,132	5,208	149	154	29	3	9	23
Tex.	2,016	848	29	2	19,227	28,411	1,054	1,030	20	109	7	54
MOUNTAIN	880	242	24	5	9,225	9,290	2,207	557	213	46	74	15
Mont.	14	6	1	1	88	73	77	28	27	-	9	-
Idaho	22	23	-	-	83	119	65	69	-	1	4	2
Wyo.	2	3	2	-	45	74	9	8	38	-	1	5
Colo.	293	79	7	1	3,342	2,655	620	88	72	20	15	-
N. Mex.	68	23	3	1	701	780	236	155	18	8	2	2
Ariz.	284	64	6	1	3,167	3,423	837	125	22	11	25	-
Utah	54	11	3	1	257	229	293	12	23	6	1	6
Nev.	143	33	2	-	1,542	1,937	70	72	13	-	17	-
PACIFIC	6,386	2,059	81	4	33,172	40,510	4,607	2,604	1,171	178	68	180
Wash.	390	-	1	-	2,737	3,486	575	263	116	7	10	11
Oreg.	166	-	-	-	1,255	1,548	301	207	56	9	-	-
Calif.	5,725	1,963	74	3	28,275	34,243	3,542	2,108	816	154	57	168
Alaska	11	12	6	-	511	658	45	12	2	1	-	-
Hawaii	94	84	-	1	394	575	144	14	181	7	1	1
Guam	-	2	-	-	50	12	5	1	-	6	-	1
P.R.	878	141	1	-	169	437	38	332	156	17	1	-
V.I.	2	-	-	-	77	307	3	6	-	-	-	-
Amer. Samoa	-	-	-	-	31	39	1	1	-	-	-	-
C.N.M.I.	-	-	-	-	61	60	2	-	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly; last update September 8, 1992.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending September 26, 1992, and September 28, 1991 (39th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	1992	Cum. 1992	Cum. 1991
UNITED STATES	693	26	1,908	1	115	8,803	1,668	69	1,934	89	1,709	1,992	5	141	1,280
NEW ENGLAND	40	-	54	-	13	77	102	-	15	17	178	241	-	6	4
Maine	1	-	-	-	4	5	8	-	-	-	11	51	-	1	-
N.H.	3	-	15	-	-	-	5	-	3	12	41	18	-	-	1
Vt.	-	-	-	-	-	5	4	-	1	1	7	4	-	-	-
Mass.	22	-	16	-	5	35	41	-	3	4	84	142	-	-	2
R.I.	5	-	23	-	-	2	6	-	-	-	1	-	-	4	-
Conn.	9	-	-	-	4	30	38	-	8	-	34	26	-	1	1
MID. ATLANTIC	180	-	173	1	14	4,599	186	17	135	3	134	187	-	16	565
Upstate N.Y.	28	-	81	-	4	400	90	-	55	3	46	103	-	11	539
N.Y. City	102	-	42	-	8	1,719	17	-	12	-	9	20	-	-	2
N.J.	25	-	45	-	1	1,030	25	-	9	-	16	14	-	2	2
Pa.	25	-	5	1†	1†	1,459	54	17	59	-	61	50	-	3	22
E.N. CENTRAL	46	-	28	-	14	85	251	6	256	17	184	380	-	8	319
Ohio	9	-	-	-	6	3	64	3	93	13	63	80	-	-	283
Ind.	11	-	20	-	-	6	41	1	9	4	27	65	-	-	3
Ill.	12	-	6	-	4	26	64	-	80	-	22	68	-	8	7
Mich.	11	-	2	-	2	41	62	2	64	-	9	33	-	-	25
Wis.	3	-	-	-	2	9	20	-	10	-	63	114	-	-	1
W.N. CENTRAL	34	-	6	-	8	59	74	1	64	5	165	186	-	7	18
Minn.	15	-	5	-	5	27	11	-	19	-	32	69	-	-	6
Iowa	2	-	-	-	3	17	8	-	10	-	5	17	-	3	6
Mo.	10	-	-	-	-	1	23	1	27	4	74	59	-	-	5
N. Dak.	1	-	-	-	-	-	1	-	2	-	14	3	-	-	1
S. Dak.	1	-	-	-	-	-	1	-	-	-	11	4	-	-	-
Nebr.	1	U	-	U	-	1	14	U	4	U	10	8	U	-	-
Kans.	4	-	1	-	-	13	16	-	2	1	19	6	-	4	-
S. ATLANTIC	140	-	122	-	12	485	347	3	718	2	123	200	5	20	8
Del.	5	-	3	-	-	21	2	-	8	-	7	-	-	-	-
Md.	37	-	9	-	7	176	30	-	63	2	22	49	-	6	1
D.C.	9	-	-	-	-	-	3	-	5	-	1	1	-	1	1
Va.	31	-	11	-	4	30	49	-	49	-	10	18	-	-	-
W. Va.	2	-	-	-	-	-	16	-	22	-	7	9	-	1	-
N.C.	10	-	25	-	-	44	103	-	180	-	22	32	-	-	2
S.C.	1	-	29	-	-	13	22	-	49	-	12	12	5	7	-
Ga.	5	-	2	-	1	15	46	-	70	-	14	38	-	-	-
Fla.	40	-	43	-	-	186	76	3	272	-	28	41	-	5	4
E.S. CENTRAL	16	-	445	-	18	5	107	-	53	-	24	75	-	1	100
Ky.	1	-	444	-	2	1	31	-	-	-	1	-	-	-	-
Tenn.	11	-	-	-	-	3	32	-	14	-	6	29	-	1	100
Ala.	4	-	-	-	-	1	33	-	12	-	14	42	-	-	-
Miss.	-	-	1	-	16	-	11	-	27	-	3	4	-	-	-
W.S. CENTRAL	23	26	962	-	3	198	120	32	327	2	52	96	-	-	7
Ark.	2	-	-	-	-	5	10	-	6	2	17	8	-	-	1
La.	1	-	-	-	-	-	28	1	21	-	7	13	-	-	-
Okla.	5	-	11	-	-	-	14	-	17	-	28	29	-	-	-
Tex.	15	26	951	-	3	193	70	31	283	-	-	46	-	-	6
MOUNTAIN	24	-	17	-	8	1,189	81	2	116	21	298	250	-	8	23
Mont.	-	-	-	-	-	-	14	-	2	-	4	3	-	-	-
Idaho	1	-	-	-	-	445	8	-	3	2	39	26	-	1	-
Wyo.	-	-	1	-	-	3	2	-	-	-	-	3	-	-	-
Colo.	6	-	13	-	7	7	15	1	18	12	38	106	-	1	3
N. Mex.	4	-	1	-	1	98	8	N	N	3	73	29	-	-	2
Ariz.	8	-	2	-	-	393	19	-	65	-	110	57	-	2	2
Utah	4	-	-	-	-	224	4	1	20	4	32	24	-	2	11
Nev.	1	-	-	-	-	19	11	-	8	-	2	2	-	2	5
PACIFIC	190	-	101	-	25	2,106	400	8	250	22	551	417	-	75	236
Wash.	13	-	-	-	10	61	64	2	11	10	173	109	-	6	8
Oreg.	11	-	3	-	1	80	56	N	N	-	31	58	-	3	3
Calif.	158	-	56	-	3	1,934	286	5	218	11	322	196	-	44	215
Alaska	1	-	8	-	1	5	8	-	1	1	8	12	-	-	1
Hawaii	7	-	34	-	10	26	6	1	20	-	17	42	-	22	9
Guam	2	U	10	U	-	-	1	U	11	U	-	-	U	3	-
P.R.	-	-	339	-	-	94	3	-	1	-	11	48	-	-	1
V.I.	-	-	-	-	-	2	-	-	18	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	24	-	U	-	U	6	-	U	-	-
C.N.M.I.	-	-	1	-	1	-	-	-	-	-	1	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable † International § Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending September 26, 1992, and September 28, 1991 (39th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tularemia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	25,060	31,576	180	18,487	16,857	129	278	362	6,112
NEW ENGLAND	499	788	12	357	486	1	24	7	619
Maine	2	1	1	19	30	-	-	-	-
N.H.	38	12	6	14	5	-	1	-	6
Vt.	1	1	-	6	6	-	-	-	21
Mass.	253	369	4	180	246	1	15	3	14
R.I.	24	44	1	34	75	-	-	2	-
Conn.	181	361	-	104	124	-	8	2	578
MID. ATLANTIC	3,625	5,426	22	3,797	3,887	-	72	30	1,884
Upstate N.Y.	244	495	8	301	351	-	8	14	1,063
N.Y. City	1,943	2,715	-	2,320	2,355	-	31	4	16
N.J.	445	938	-	702	640	-	21	4	560
Pa.	993	1,278	14	474	541	-	12	8	245
E.N. CENTRAL	3,703	3,819	45	1,637	1,670	1	35	26	120
Ohio	593	501	14	243	255	-	6	14	12
Ind.	234	138	10	134	164	-	1	6	17
Ill.	1,677	1,737	5	825	872	1	23	2	23
Mich.	704	998	16	375	300	-	3	1	14
Wis.	495	445	-	60	79	-	2	3	54
W.N. CENTRAL	990	593	31	381	391	54	6	24	897
Minn.	65	51	6	101	74	-	2	-	143
Iowa	35	55	5	32	52	-	1	1	145
Mo.	770	403	7	171	173	39	2	18	24
N. Dak.	1	1	2	4	6	-	-	-	128
S. Dak.	-	1	-	19	27	11	-	1	102
Nebr.	1	12	4	16	15	2	1	-	12
Kans.	118	70	7	38	44	2	-	4	343
S. ATLANTIC	6,860	9,268	22	3,163	3,169	5	23	107	1,343
Del.	162	130	3	39	23	-	-	10	159
Md.	490	737	2	265	275	1	5	14	403
D.C.	305	564	-	89	138	-	1	1	14
Va.	501	709	3	264	258	2	2	17	253
W. Va.	15	22	1	73	51	-	1	6	33
N.C.	1,814	1,481	3	413	416	1	-	42	33
S.C.	927	1,171	1	314	322	-	1	7	130
Ga.	1,386	2,303	5	649	641	1	-	7	277
Fla.	1,260	2,151	4	1,057	1,045	-	13	3	41
E.S. CENTRAL	3,245	3,491	3	1,054	1,127	5	3	61	151
Ky.	121	78	-	286	271	1	-	6	55
Tenn.	825	1,129	3	284	322	4	-	52	33
Ala.	1,184	1,333	-	315	302	-	-	3	62
Miss.	1,115	951	-	169	232	-	3	-	1
W.S. CENTRAL	4,558	5,626	2	1,882	2,024	33	12	92	570
Ark.	629	478	-	156	174	22	-	14	33
La.	1,868	1,949	-	156	175	-	1	-	7
Okla.	272	150	1	117	135	11	-	77	272
Tex.	1,789	3,051	1	1,453	1,540	-	11	1	258
MOUNTAIN	273	434	15	423	461	24	3	9	199
Mont.	7	6	1	-	8	12	-	3	20
Idaho	1	4	1	18	5	-	1	1	3
Wyo.	3	8	-	-	4	1	-	3	72
Colo.	40	66	6	30	57	4	2	-	18
N. Mex.	36	26	1	63	59	4	-	1	7
Ariz.	138	270	2	200	237	-	-	-	61
Utah	7	6	4	58	40	2	-	1	5
Nev.	41	48	-	54	53	1	-	-	13
PACIFIC	1,307	2,129	28	3,793	3,642	6	100	6	329
Wash.	65	139	-	223	214	2	7	-	-
Oreg.	32	64	1	98	88	-	-	3	2
Calif.	1,197	1,918	27	3,244	3,137	2	88	3	314
Alaska	5	4	-	42	54	2	-	-	13
Hawaii	8	4	-	186	149	-	5	-	-
Guam	3	1	-	58	6	-	3	-	-
P.R.	266	319	-	200	167	-	1	-	31
V.I.	52	86	-	3	2	-	-	-	-
Amer. Samoa	-	-	-	-	2	-	1	-	-
C.N.M.I.	5	3	-	48	16	-	1	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending September 26, 1992 (39th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	598	420	119	38	7	14	43
Boston, Mass.	171	98	49	15	2	7	20
Bridgeport, Conn.	39	26	6	4	1	2	3
Cambridge, Mass.	20	19	-	-	1	-	2
Fall River, Mass.	34	27	4	3	-	-	-
Hartford, Conn.	55	39	13	1	-	2	1
Lowell, Mass.	19	15	3	1	-	-	-
Lynn, Mass.	12	8	4	-	-	-	2
New Bedford, Mass.	28	22	4	2	-	-	1
New Haven, Conn.	37	31	4	1	1	-	2
Providence, R.I.	35	27	5	3	-	-	-
Somerville, Mass.	4	3	1	-	-	-	-
Springfield, Mass.	40	27	10	3	-	-	2
Waterbury, Conn.	29	22	3	3	1	-	2
Worcester, Mass.	75	56	13	2	1	3	8
MID. ATLANTIC	2,636	1,711	495	320	60	51	101
Albany, N.Y.	47	34	9	2	1	1	1
Allentown, Pa.	22	19	2	-	1	-	1
Buffalo, N.Y.	100	70	20	5	4	1	4
Camden, N.J.	34	17	9	2	4	2	2
Elizabeth, N.J.	20	15	5	-	-	-	-
Erie, Pa.§	36	25	8	2	1	-	-
Jersey City, N.J.	48	25	12	10	-	1	-
New York City, N.Y.	1,443	916	271	207	28	21	51
Newark, N.J.	60	24	11	18	3	6	7
Paterson, N.J.	26	15	4	7	-	-	-
Philadelphia, Pa.	395	252	77	49	9	8	14
Pittsburgh, Pa.§	60	37	17	3	-	3	4
Reading, Pa.	23	16	6	-	1	-	1
Rochester, N.Y.	105	84	14	3	1	3	6
Schenectady, N.Y.	24	17	2	2	2	1	-
Scranton, Pa.§	30	26	3	1	-	-	-
Syracuse, N.Y.	71	49	12	4	4	2	3
Trenton, N.J.	42	25	10	3	1	2	2
Utica, N.Y.	20	17	2	1	-	-	2
Yonkers, N.Y.	32	28	1	3	-	-	3
E.N. CENTRAL	1,992	1,183	440	204	110	55	82
Akron, Ohio	100	67	19	8	1	5	-
Canton, Ohio	26	14	9	2	-	1	3
Chicago, Ill.	460	196	90	83	80	11	5
Cincinnati, Ohio	141	87	44	8	-	2	12
Cleveland, Ohio	179	115	47	11	1	5	4
Columbus, Ohio	131	80	28	14	4	5	-
Dayton, Ohio	98	69	21	5	2	1	5
Detroit, Mich.	208	112	54	30	5	7	6
Evansville, Ind.	43	37	3	3	-	-	2
Fort Wayne, Ind.	35	29	5	1	-	-	4
Gary, Ind.	15	4	4	5	2	-	-
Grand Rapids, Mich.	62	48	10	1	2	1	3
Indianapolis, Ind.	158	98	33	12	3	12	11
Madison, Wis.	33	23	5	4	1	-	3
Milwaukee, Wis.	128	81	36	8	2	1	12
Peoria, Ill.	36	26	6	2	1	1	5
Rockford, Ill.	42	26	10	3	2	1	4
South Bend, Ind.	46	33	10	-	1	2	3
Toledo, Ohio	U	U	U	U	U	U	U
Youngstown, Ohio	51	38	8	4	3	-	-
W.N. CENTRAL	800	571	140	45	25	18	37
Des Moines, Iowa	79	57	16	1	4	1	2
Duluth, Minn.	33	27	5	1	-	-	4
Kansas City, Kans.	38	21	4	8	4	-	2
Kansas City, Mo.	134	98	29	2	3	2	5
Lincoln, Nebr.	31	22	7	2	-	-	1
Minneapolis, Minn.	163	118	26	6	6	7	11
Omaha, Nebr.	95	63	19	6	1	4	3
St. Louis, Mo.	107	79	13	9	4	2	3
St. Paul, Minn.	79	61	13	2	2	1	4
Wichita, Kans.	41	27	8	4	1	1	2

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,331	803	277	167	43	39	54
Atlanta, Ga.	203	106	44	34	9	10	3
Baltimore, Md.	300	175	82	31	8	4	18
Charlotte, N.C.	79	45	19	9	2	4	2
Jacksonville, Fla.	109	69	17	14	4	5	8
Miami, Fla.	93	58	17	14	3	1	-
Norfolk, Va.	59	34	15	5	5	-	4
Richmond, Va.	86	57	21	5	1	2	2
Savannah, Ga.	52	43	3	3	1	2	3
St. Petersburg, Fla.	60	40	8	6	4	2	-
Tampa, Fla.	150	103	20	22	1	4	9
Washington, D.C.	113	52	27	23	5	4	5
Wilmington, Del.	27	21	4	1	-	1	-
E.S. CENTRAL	760	492	151	67	23	27	33
Birmingham, Ala.	123	78	20	18	2	5	1
Chattanooga, Tenn.	70	46	16	7	-	1	2
Knoxville, Tenn.	94	63	19	6	2	4	8
Lexington, Ky.	79	48	23	5	2	1	5
Memphis, Tenn.	208	123	43	19	12	11	11
Mobile, Ala.	40	33	4	-	2	1	2
Montgomery, Ala.	28	22	5	-	-	1	-
Nashville, Tenn.	118	79	21	12	3	3	4
W.S. CENTRAL	1,393	840	293	139	67	51	65
Austin, Tex.	59	45	6	3	2	3	5
Baton Rouge, La.	37	26	9	-	2	-	1
Corpus Christi, Tex.	34	29	4	-	1	-	-
Dallas, Tex.	184	108	32	28	12	4	4
El Paso, Tex.	63	38	14	4	5	2	4
Ft. Worth, Tex.	89	52	24	4	3	5	1
Houston, Tex.	352	186	83	48	20	15	23
Little Rock, Ark.	55	26	13	8	2	6	3
New Orleans, La.	142	84	28	17	7	4	-
San Antonio, Tex.	215	139	40	19	9	8	11
Shreveport, La.	51	33	9	5	2	2	4
Tulsa, Okla.	112	74	31	3	2	2	9
MOUNTAIN	745	472	150	76	26	21	44
Albuquerque, N.M.	88	56	13	11	5	3	6
Colo. Springs, Colo.	46	26	10	4	3	3	1
Denver, Colo.	123	77	19	18	4	3	10
Las Vegas, Nev.	127	67	39	16	3	2	5
Ogden, Utah	24	18	4	1	1	-	3
Phoenix, Ariz.	162	108	26	14	6	8	15
Pueblo, Colo.	17	9	7	1	-	-	-
Salt Lake City, Utah	75	50	15	6	2	2	4
Tucson, Ariz.	83	59	17	5	2	-	-
PACIFIC	1,943	1,257	347	224	70	40	110
Berkeley, Calif.	20	13	3	3	1	-	1
Fresno, Calif.	57	33	9	11	3	1	3
Glendale, Calif.	25	20	1	3	1	-	3
Honolulu, Hawaii	86	54	18	6	3	5	9
Long Beach, Calif.	79	45	13	13	5	3	3
Los Angeles, Calif.	582	368	114	75	19	5	20
Pasadena, Calif.	34	25	4	4	1	-	6
Portland, Oreg.	110	71	23	7	3	6	4
Sacramento, Calif.	144	109	20	10	3	1	16
San Diego, Calif.	172	109	29	19	10	5	18
San Francisco, Calif.	173	90	36	37	5	5	-
San Jose, Calif.	132	79	23	17	6	6	10
Santa Cruz, Calif.	39	32	7	-	-	-	5
Seattle, Wash.	150	110	23	12	4	1	2
Spokane, Wash.	42	27	9	3	1	2	2
Tacoma, Wash.	98	74	15	4	5	-	8
TOTAL	12,200¶	7,749	2,412	1,280	431	318	569

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

U: Unavailable.

Imported Dengue — Continued

Central America, and one each in Tahiti and an unspecified location in Latin America; one person acquired dengue during travel to Australia and Thailand.

Of the 25 persons with laboratory-diagnosed dengue, sex was reported for 23; 12 were female. Age was reported for 22 and ranged from 20 to 61 years (median: 32.5 years). Date at onset of symptoms—reported for 24 persons—was from June through September for 11 persons and in January or December for five. For persons with laboratory-diagnosed dengue, the most commonly reported symptoms were consistent with classic dengue fever (e.g., fever, rash, headache, and myalgia). At least four persons required hospitalization; 10 patients developed low white blood cell counts (1500–4400/mm^3), and seven patients had low platelet counts (15,000–145,000/mm^3).

Reported by: State and territorial health departments. Dengue Br, Div of Vector-Borne Infectious Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: Although most dengue infections result in mild illness, some may cause the severe form of the disease—dengue hemorrhagic fever—characterized by fever, low platelet count (≤100,000/mm^3), hemorrhagic manifestations, and leaky-

TABLE 1. Suspected and laboratory-diagnosed cases of imported dengue, by state — United States, 1991

State	Cases		Travel history of persons with laboratory-diagnosed dengue (serotype, if known)
	Reported	Laboratory-diagnosed	
Alabama	3	2	Tobago
Arkansas	1	0	
California	2	1	Philippines
Colorado	3	2	1 Thailand, 1 Tahiti (DEN-3)
Connecticut	1	0	
District of Columbia	3	2	1 Dominican Republic, 1 India
Florida	5	1	Honduras
Georgia	7	2	Mexico
Hawaii	2	1	Singapore
Illinois	2	0	
Indiana	1	1	Philippines
Iowa	2	0	
Maryland	1	1	Puerto Rico
Massachusetts	11	1	Thailand
Michigan	1	0	
Minnesota	4	1	Latin America
Missouri	1	0	
New Jersey	1	0	
New York	13	3	1 Guatemala, 1 Philippines, 1 Australia and Thailand
North Carolina	1	0	
Ohio	3	1	Haiti
Oregon	2	1	Asia
Pennsylvania	1	1	India
Tennessee	1	0	
Vermont	1	1	Puerto Rico
Virginia	1	0	
Washington	3	2	1 Thailand, 1 Hong Kong, China, Nepal, and Thailand (DEN-1)
Wisconsin	5	1	Puerto Rico
Total	**82**	**25**	

Imported Dengue — Continued

capillary syndrome evidenced by hemoconcentration, hypoalbuminemia, or pleural or abdominal effusions (*2*).

In the Americas, dengue is transmitted by the *Aedes aegypti* mosquito. Although nearly eradicated from the region in the 1960s, this species is now found in all tropical countries of the region except Bermuda, the Cayman Islands, and Costa Rica and is present year-round in the southernmost areas of Texas and Florida. *Ae. albopictus*, a vector of dengue viruses in Asia and recently introduced and established in the United States, is widely distributed in many states in the eastern half of the country, where introduced cases of dengue are detected annually (*3*).

Although endemic transmission of dengue has not occurred in the United States since 1986 (south Texas), introduction of the virus by international travelers could result in local transmission. The 82 cases referred for serologic confirmation in 1991 represent the lowest number of reports since 1984 (63 cases), and a 20% decrease from 1990 (102 cases), but do not include cases of dengue reported to state health departments without accompanying specimens for testing.

Dengue is endemic in many islands in the Caribbean, Mexico, and most countries in Central and South America. Three of the four serotypes (DEN-1, DEN-2, and DEN-4) have been circulating in the region since 1981. Although transmission of DEN-3 has not been detected since 1977, it could be reintroduced by travelers. During 1989–1991, DEN-3 was isolated from U.S. residents returning from Africa and the South Pacific.

Most persons with laboratory-diagnosed cases in 1991 had onset of symptoms during popular months for travel. Tourists should avoid exposure to mosquitoes in tropical locations. Because *Aedes* species that transmit dengue may bite at any time during the day, with peak activity in the early morning and late afternoon, the use of mosquito repellent and protective clothing is recommended.

Physicians should consider dengue in the differential diagnosis for all patients who present with compatible manifestations and have a history of travel to tropical areas. Acetaminophen products are recommended for management of fever to avoid the anticoagulant properties of acetylsalicylic acid (i.e., aspirin). Acute and convalescent (up to 30 days after onset of symptoms) serum samples should be obtained for viral isolation or serodiagnosis.

Suspected dengue cases should be reported to state health departments along with a clinical summary, dates at onset of illness and blood collection, and epidemiologic information, including a detailed travel history with dates and locations of travel. Acute and convalescent serum samples should be sent for confirmation through the state health department laboratory to the Dengue Branch, Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases, CDC (2 Calle Casia, San Juan, PR 00921-3200); telephone (809) 749-4400; fax (809) 749-4450.

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3. Moore CG, Francy DB, Eliason DA, Bailey RE, Campos EG. *Aedes albopictus* and other container-inhabiting mosquitoes in the United States: results of an eight-city survey. J Am Mosq Contr Assoc 1990;4:173–8.

Asthma — United States, 1980–1990

Since the 1970s, the prevalence, morbidity, and mortality of asthma* in the United States and other western countries have increased (*1–3*). In 1990, related health-care expenditures for asthma were estimated at $6.2 billion, or nearly 1% of all U.S. health-care costs (*4*). This report updates a previous report (*5*) on national trends in disease burden for asthma using the latest available data from CDC's National Center for Health Statistics' multiple-cause-of-death file, the National Ambulatory Medical Care Survey (NAMCS), the National Hospital Discharge Survey, and the National Health Interview Survey (NHIS).

From 1980 through 1989, the age-adjusted death rate† for asthma as the underlying cause of death increased 46% from 1.3 per 100,000 population (2891 deaths) to 1.9 per 100,000 (4867 deaths) (Figure 1). During this period, the death rate increased 54% for females (from 1.3 to 2.0 per 100,000) and 23% for males (from 1.3 to 1.6 per 100,000).

The annual asthma death rate was consistently higher for blacks than for whites§ during this period; for blacks, the rate increased 52% (from 2.5 to 3.8 per 100,000), compared with a 45% increase (from 1.1 to 1.6 per 100,000) for whites (Figure 1). The increase in the death rate for black and white females was similar; 63% (from 2.4 to 3.9 per 100,000) and 64% (from 1.1 to 1.8 per 100,000), respectively. However, the increase in the death rate for black males (37%; from 2.7 to 3.7 per 100,000) was more than twice that for white males (17%; from 1.2 to 1.4 per 100,000).

Asthma is generally treated in outpatient settings. Results from the NAMCS indicate that physician visits for asthma as a first-listed diagnosis increased from 6.5 million in 1985 to 7.1 million in 1990. The age-adjusted rate for physician visits increased 35% for blacks (from 2520 to 3390 per 100,000 population) but decreased 8% for whites (from 2790 to 2580 per 100,000). For blacks, the rate of visits decreased 46% for males (from 2410 to 1290 per 100,000) but increased 98% for females (from 2600 to 5140 per 100,000). For whites, the rate decreased 23% for males (from 2640 to 2020 per 100,000) but increased 8% for females (from 2930 to 3160 per 100,000).

From 1980 through 1990, the age-adjusted hospital discharge rate for asthma as the first-listed diagnosis varied slightly, from 180 per 100,000 to 188 per 100,000; the highest discharge rates occurred in the middle of the decade. Females had higher hospital discharge rates than males each year; blacks were more than twice as likely as whites to be hospitalized each year.

Based on NHIS results from 1980 through 1990, the age-adjusted prevalence rate for self-reported asthma increased 38%, from 3100 to 4290 per 100,000 population (from 6.8 million to 10.3 million persons affected). The rate increased 50% for females and 27% for males. From 1981 through 1988, the annual prevalence rate for black females increased from 2750 to 6060 per 100,000; from 1980 through 1989, the rate for white females increased from 2960 to 4700 per 100,000.

Reported by: Chronic Disease Surveillance Br, Office of Surveillance and Analysis, National Center for Chronic Disease Prevention and Health Promotion, CDC.

**International Classification of Diseases, Ninth Revision, Clinical Modification*, code 493.

† Intercensal population estimates were used to calculate age-adjusted rates standardized to the 1980 U.S. population.

§ Death rates for other racial/ethnic groups were not included in this analysis.

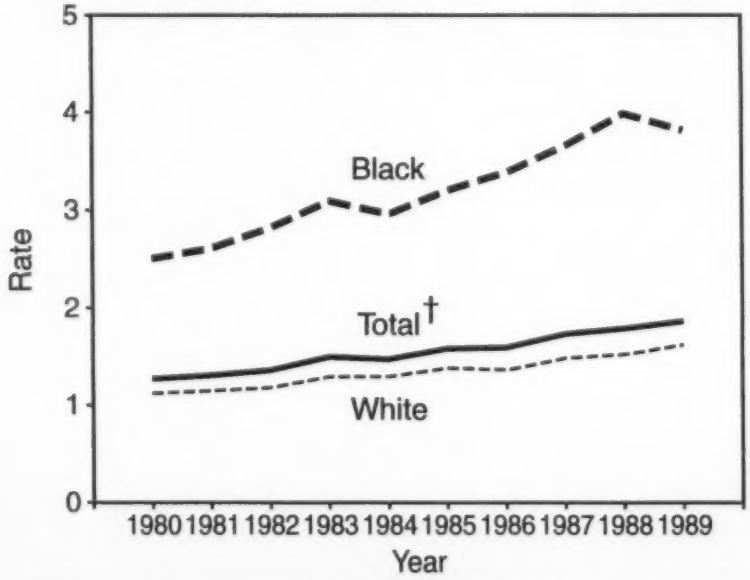
Asthma — Continued

Editorial Note: The findings in this report indicate substantial variation in patterns of disease burden of asthma among subpopulations in the United States—especially during the latter 1980s. These variations may reflect changes in disease occurrence, disease severity, use of health-care facilities, trends in diagnostic and coding practices, and increased public awareness. For most persons with asthma, symptoms are mild and can be managed with outpatient care. An expert panel report recommends using daily patient diaries, regular peak-flow monitoring, developing a patient-provider partnership, and using corticosteroids and cromolyn preparations when appropriate (*6*).

The etiology, morbidity, and mortality of asthma are multifactorial with possible familial, infectious, allergenic, environmental, socioeconomic (*7*), and psychosocial influences. For persons with asthma, suspected precipitating factors—such as respiratory allergens (e.g., house-dust mites [*8*] and molds), respiratory infections, tobacco-smoke exposure, and environmental and other occupational exposures—should be controlled. However, the role of these and other risk factors in the development and manifestation of this disease is not completely understood. The National Institute of Allergy and Infectious Diseases' National Cooperative Inner-City Asthma Study intends to clarify some of the risk factors for asthma among urban populations (*9*).

The national health objectives for the year 2000 include decreasing disability and hospitalizations for asthma and increasing education about asthma (objectives 11.1, 17.4, and 17.14) (*10*). In addition, the disproportionate increases in the morbidity and

FIGURE 1. Death rates* for asthma as the underlying cause of death, by race — United States, 1980–1989



*Per 100,000 persons, age-adjusted to the 1980 U.S. population.
†Includes all races/ethnicities.

Asthma — Continued

mortality of asthma among races other than white have resulted in increased use of emergency rooms and hospitals (*9*).

To decrease asthma morbidity and mortality, health-care providers and public health officials need to address the prevention and control of known risk factors, access to regular health care and follow-up, the increased role of primary care in treatment, effective use of emergency rooms, appropriate hospitalization, the availability and cost of pharmacotherapy, patient/provider education, and the effectiveness of these interventions. Further efforts to characterize asthma epidemiologically should address the effect of underlying patterns of illness on the distribution of disease severity, the use of health-care facilities (including emergency-room visits and hospitalizations), and the presence of comorbid conditions before death.

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Notice to Readers

Review of Draft Survey and Recommendations of Tuberculosis Control Laws in the United States

CDC is completing a survey of state laws and health department regulations and is developing recommendations for the revision of state tuberculosis (TB) control laws. Copies of this draft document are available for review from Information Services, National Center for Prevention Services, CDC, 1600 Clifton Road, N.E., Mailstop E-06, Atlanta, GA 30333 or from CDC's voice information services requests (recording) at (404) 639-1819. Comments on these proposed recommendations should be received in writing by November 16, 1992.

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